CONFIDENTIAL P-155

2 May 1955

MEMORANDUM FOR: THE RECORD

SUBJECT : Project Monitor: Contract ND 29 e.a.
R.O.#5 P-6 B, Night Landing System, U.V.
R.O.#6,7 P-1[illegible]2, P-1[illegible]3, Transducer, Actuator Index
R.O.#[illegible]15 P-1[illegible]6, Contact Microphone
R.O.#[illegible]20 P-[illegible]9, Communication System VLF
R.O.#[illegible]11 P-155, Recorder, Subminiature

1. Time and Place of Meeting: The meeting was held at [redacted] 25X1
[redacted] 27-29 April 1955 25X1

2. Attendance: [redacted] 25X1

3. Purpose of Meeting: The meeting was held to review the past months work and to outline future work on all projects.

4. Discussion:

a. P-6 B, Night Landing System, U.V

About a dozen reconditioned autocollimators were field tested at ranges from [illegible],000 to 2,900 feet using a [illegible] watt mercury arc ultra-violet source. The source used had a beam width of more than 90°x. The filter used was a Zeiss Jena UG-4, visable security 20 ft. plus.

The weather was good and visibility was excellent. The city lights of [redacted] 8 miles distant were clearly visible and did not twinkle. 25X1

The autocollimators were visible out to 2,900 feet which, however, appeared to be about the useful limit of range. Several autocollimators failed because of lack of proper optical focus. Discussion later disclosed that defocussing was caused by movement of the phosphor target and that this fault had appeared in many of the units before they were reconditioned.

It was recommended that [redacted] check all of the autocollimators on the 60 cps shake table for 5 minutes in an attempt to determine if such vibration affects focussing. If it appears that a sizeable 25X1

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[redacted] agreed to deliver 12 preliminary prototypes of a Rochelle crystal unit as soon as possible. AFD will receive a letter giving the exact date. This is the best unit [redacted] has built to date. A similar unit was checked with the Baird amplifier. It was possible to detect speech through a two inch wooden door (in a very noisy building) but the speech was not intelligible. The signal from the unit easily overrode any amplifier noise. 25X1 25X1

[redacted] will concentrate on a study of walls, their transmission and noise characteristics and a correlation of [redacted] data on these things with similar data from the literature. An optimum frequency response curve will be determined. 25X1 25X1

A cursory examination of other types of transducers than crystal will be continued. Of interest are the dynamic, variable reluctance and electronic-mechanical types.

Work will recommence about 2 May 1955.

d. P-93, Communication System VLF.

[redacted] demonstrated a system at a range of 1 mile, CW, 3WPM using probe spacds of 100 meters. The transmitter input power into the probes was 30 watts. Probe impedance was about 30 ohms. Both an [redacted] receiver and Stoddart Field Strength Meter were used as receivers. Reception was RST 479 with some trouble from static bursts. 25X1 25X1

The [redacted] receiver consisted of an r.f. amplifier, a Q-multiplier, two R-C coupled amplifiers and a BFO. Its operation was very unsatisfactory due to poor construction and design. 25X1

[redacted] will have completed a complete breadboard system (2 units) for demonstration on 27 May. The purpose of the demonstration will be to prove out the [redacted] circuit designs. Final packaging and miniaturization is not required. 25X1 25X1

e. P-155, Recorder, Subminiature.

[redacted] is preparing a final report and a new proposal as previously directed. 25X1

5. Actions:

a. [redacted] will notify AFD of the results of the autocollimator vibration test. 25X1

b. AFD will give [redacted] a shipping address for the indices, P-102, P-103. 25X1

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c. [redacted] will notify APD of the date by which 12 prototypes of a contact microphone can be delivered. 25X1

d. APD will obtain a Baird Kit Amplifier for [redacted] as soon as possible. 25X1

e. [redacted] will complete a VLF breadboard communications system by 27 May 1955. 25X1

[redacted] 25X1
EEB/APD

Distribution:
P-608 - 1
P-102 - 1
P-103 - 1
P-93 - 1
P-109 - 1
P-155 - 1
BAK - 1
Chrono- 1
eta

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